



**Air Quality  
PERMIT TO CONSTRUCT**

**State of Idaho  
Department of Environmental Quality**

**PERMIT No.:** P-040310

**FACILITY ID No.:** 041-00010

**AQCR:** 61

**CLASS:** SM

**SIC:** 1499

**ZONE:** 12

**UTM COORDINATE (km):** 436 , 4,666

1. **PERMITTEE**  
Bear River Zeolite Co.

2. **PROJECT**  
Zeolite Mine

3. **MAILING ADDRESS**  
P.O. Box 643

**CITY**  
Thompson Falls

**STATE**  
Montana

**ZIP**  
59873

4. **FACILITY CONTACT**  
John C. Lawrence

**TITLE**  
President

**TELEPHONE**  
(406) 827-3523

5. **RESPONSIBLE OFFICIAL**  
John C. Lawrence

**TITLE**  
President

**TELEPHONE**  
(406) 827-3523

6. **EXACT PLANT LOCATION**  
NW¼, NW¼ Sec. 10, T15S, R40E

**COUNTY**  
Franklin

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**  
Mining, Crushing, Screening and Bagging Zeolite

8. **GENERAL CONDITIONS**

This permit is issued according to IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho*, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, or piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require DEQ approval pursuant to the *Rules for the Control of Air Pollution in Idaho*, IDAPA 58.01.01.200, et seq.

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TONI HARDESTY, DIRECTOR  
DEPARTMENT OF ENVIRONMENTAL QUALITY

**DATE ISSUED:** PROPOSED

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## **Acronyms, Units, and Chemical Nomenclature**

AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
PM	particulate matter
PTC	permit to construct
SIC	Standard Industrial Classification
UTM	Universal Transverse Mercator

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<b>Location:</b>	Preston			

## 1. PERMIT TO CONSTRUCT SCOPE

### *Purpose*

- 1.1 The purpose of this permit is to fulfill the requirements of IDAPA 58.01.01.201 on equipment which was constructed without a permit to construct.

### *Regulated Sources*

Table 1.1 lists all sources of regulated emissions in this PTC.

**Table 1.1 SUMMARY OF REGULATED SOURCES**

Permit Section	Source Description	Emissions Control(s)
2	<b>Crushers, Mills, and Screens</b>	
	<b>Primary Crusher</b> Portec, Inc. Pioneer Division Jaw Crusher Capacity: 300 T/hr	None
	<b>Primary Crushing Building</b> Nordberg Mfg. Co. Cone Crusher Capacity: 100 T/hr	Contained in a building. Building emissions are vented through a baghouse
	Kohler Screen Capacity: 300 T/hr Size: 5 ft by 12 ft	
	<b>Secondary Crushing Building</b> Jeffries Hammer Mill Capacity: 50 T/hr	Contained in a building. Building emissions are vented through a baghouse.
	2 Midwest Screens Capacity: 25 T/hr Size: 5 ft by 7 ft	
	<b>Coarse Products Building</b> Philadelphia Hammer Mill Capacity: 10 T/hr	
	Midwest Screen Size: 4 ft by 8 ft	Contained in a building. Building emissions are vented through a baghouse.
	2 Sweeco Screens Capacity: 10 T/hr Size: 4 ft diameter	
	<b>Fine Products Building</b> Allis Chalmers Tube Mill Capacity: 10 T/hr	

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Permit Section	Source Description	Emissions Control(s)
	2 Derrick Screens Capacity: 10 T/hr Size: 3.5 ft by 10.5 ft	Contained in a building

Permit Section	Source Description	Emissions Control(s)
3	<b>Generators</b>  GMC 8V92T/Lima Rated Output: 250 kW Fuel Type: Diesel  Caterpillar 1693T Rated Output: 150 kW Fuel Type: Diesel  Caterpillar 3304 Rated Output: 113 kW Fuel Type: Diesel	None
4	<b>Kerr McGee Drum Dryer</b>  Rated Heat Input: 1,000,000 Btu/hr Fuel Type: Propane	Mikro Pulsaire Baghouse
5	<b>Mining Operations</b>	Fugitive Dust Control Plan

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## **2. CRUSHING OPERATIONS**

### **2.1 Process Description**

Zeolite ore is transported from the mine site to the crushers where it is routed through a series of crushers, mills, and screens to be processed to the desired size.

### **2.2 Emissions Control Description**

**Table 2.1 Crushing Equipment Description**

<b>Emissions Unit(s) / Process(es)</b>	<b>Emissions Control Device</b>	<b>Emissions Point</b>
Primary Crusher	None	
Primary Crushing Building	Baghouse	Primary Crushing Baghouse stack
Secondary Crushing Building	Baghouse	Baghouse 2 stack
Coarse Products Building	Baghouse	Baghouse 3 stack
Fine Products Building	Contained in building	Fugitive

## ***Emissions Limits***

### **2.3 Crusher Opacity Limit**

The particulate matter (PM) emissions from rock crushers, at which a capture system is not used, shall not exhibit more than 15% opacity in accordance with 40 CFR 60.672(c) . Opacity shall be determined using the procedures specified in 40 CFR 60.675.

### **2.4 Transfer Point Opacity Limit**

The PM emissions from any transfer point on belt conveyors, or from each grinding mill, screening operation, bucket elevator, belt-conveyor bagging operation, storage bin, enclosed truck, or rail-car-loading station shall not exhibit greater than 10% opacity in accordance with 40 CFR 60.672(b). Opacity shall be determined using the procedures specified in 40 CFR 60.675.

### **2.5 Visible Emissions**

Emissions emanating from any stack, vent, or other functionally equivalent opening, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625. Opacity shall be determined using the procedures contained in IDAPA 58.01.01.625.

### **2.6 Stack Emissions Limit**

Stack emissions, as defined in 40 CFR 60.671, from any building enclosing crushing, milling, and screening equipment or enclosing any transfer point on a conveyor belt shall not contain particulate matter in excess of 0.022 gr/dscf in accordance with 40 CFR 60.672(a).

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**2.7 Building Visible Emissions**

There shall be no visible emissions from any building enclosing crushing, milling, and screening equipment or enclosing any transfer point on a conveyor belt, excluding those emissions from vents, in accordance with 40 CFR 60.672(e)(1).

***Operating Requirements*****2.8 Production Limit**

The facility shall not produce more than 480 tons per day of bagged zeolite.

**2.9 Baghouse Operation**

The permittee shall operate a baghouse on the primary crushing building, the secondary crushing building, and the course crushing building to control PM emissions from the crushing, milling, and screening operations in those buildings.

**2.10 Operations and Maintenance (O&M) Manual**

Within 60 days of permit issuance the permittee shall develop an O&M manual for the zeolite dryer baghouse. The O&M manual shall contain, at a minimum, the manufacturer's specifications for the baghouse and the normal pressure drop operating range. The baghouse shall be operated in accordance with the O&M manual. Upon completion of the O&M manual the permittee shall submit a copy to DEQ. A copy of the O&M manual shall remain onsite at all times and be made available to DEQ representatives upon request.

***Monitoring and Recordkeeping Requirements*****2.11 Performance Test**

The permittee shall conduct performance tests on all applicable sources affected by 40 CFR 60 Subpart OOO. Performance tests conducted prior to the issuance date of this permit which meet the requirements in 40 CFR 60 Subpart OOO satisfy this permit requirement.

**2.12 Throughput Monitoring**

The permittee shall monitor and record the amount of zeolite bagged once per day. These records shall be maintained for the most recent two year period and be made available to DEQ representatives upon request.

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## ***Reporting Requirements***

### **2.13    Reporting**

The permittee shall submit reports of any performance tests required in 40 CFR 60 Subpart OOO to DEQ within 30 days of performance test completion. The permittee shall submit performance test reports to EPA within the timelines specified in 40 CFR 60.676 for all performance tests conducted to demonstrate compliance with the emissions limits in 40 CFR 60.672.



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**3. GENERATORS****3.1 Process Description**

The generators provide electricity to the rock crushing equipment.

**3.2 Emissions Control Description**

**Table 3.1 Generator Description**

<b>Emissions Unit(s) / Process(es)</b>	<b>Emissions Control Device</b>
GMC 8V92T/Lima 250 kW Generator	None
Caterpillar 1693T 150 kW Generator	None
Caterpillar 3304 113 kW Generator	None

***Emissions Limits*****3.3 Visible Emissions**

Emissions emanating from any stack, vent, or other functionally equivalent opening, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625. Opacity shall be determined using the procedures contained in IDAPA 58.01.01.625.

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#### **4. ZEOLITE DRYER**

##### **4.1 Process Description**

The zeolite dryer is a propane fired drum dryer. The unit's emissions are controlled by a baghouse.

##### ***Emissions Limits***

##### **4.2 PM<sub>10</sub> Emission Limits**

Emissions of PM<sub>10</sub> from the zeolite dryer baghouse shall not exceed 0.8 lb/hr or 3.6 T/yr.

##### **4.3 Visible Emissions**

Emissions emanating from any stack, vent, or other functionally equivalent opening, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625. Opacity shall be determined using the procedures contained in IDAPA 58.01.01.625.

##### ***Operating Requirements***

##### **4.4 Zeolite Dryer Fuel Type**

The fuel used in the zeolite dryer shall be liquefied petroleum gas or natural gas only.

##### **4.5 Control Device**

The zeolite dryer shall utilize a baghouse to control particulate matter emissions whenever the dryer is operating.

##### **4.6 Operations and Maintenance (O&M) Manual**

Within 60 days of permit issuance the permittee shall develop an O&M manual for the zeolite dryer baghouse. The O&M manual shall contain, at a minimum, the manufacturer's specifications for the baghouse and the normal pressure drop operating range. The baghouse shall be operated in accordance with the O&M manual. Upon completion of the O&M manual the permittee shall submit a copy to DEQ. A copy of the O&M manual shall remain onsite at all times and be made available to DEQ representatives upon request.

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## **5. MINING OPERATIONS**

### **5.1 Process Description**

Mining operations consist of drilling, blasting, truck loading, and transport of zeolite ore.

### **5.2 Emissions Control Description**

**Table 5.1 Mining Description**

<b>Emissions Unit(s) / Process(es)</b>	<b>Emissions Control Device</b>
Mining Operations	Fugitive Dust Control Plan

## ***Emissions Limits***

### **5.3 Visible Emissions at the Property Boundary**

Visible fugitive emissions shall not be observed leaving the property boundaries exceeding a period or periods aggregating more than three minutes in any 60-minute period. This visual determination is to be conducted using Method 22, 40 CFR 60, Appendix A.

## ***Operating Requirements***

### **5.4 Fugitive Dust Control Plan**

All reasonable precautions shall be taken to prevent PM from becoming airborne as required in IDAPA 58.01.01.651. In determining what is reasonable, considerations will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of PM. To establish reasonable precautions, the Permittee shall develop, maintain and implement a Fugitive Dust Control Plan which identifies potential sources of fugitive dust and which establishes good operating practices for limiting the formation and dispersion of dust from those sources. The approved Fugitive Dust Control Plan is part of the terms and conditions of the permit.

The Fugitive Dust Control Plan (Plan) shall contain, at a minimum, the following information and requirements:

1. A general description of the potential sources of fugitive dust from the facility.
2. Application of water from water trucks for control of dust in mining areas, haul roads and loadout areas. The Plan must establish criteria to determine when water must be applied. Water does not need to be applied when the surface is wet (i.e. during/following rainy conditions) or when reduced ambient temperatures may cause the water to freeze. The applicant may choose to use surface improvements to existing roads in lieu of water application where appropriate to control fugitive dust.
3. Application of suitable dust suppressant chemicals (e.g., magnesium chloride) to haul roads during the dry season when necessary to control fugitive dust. The Plan must establish criteria to determine when dust suppressant must be applied. The applicant may choose to use surface improvements to existing roads in lieu of water application where appropriate to control fugitive dust.

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4. Develop a dust control strategy for the drill rigs. The Plan must establish criteria to determine when dust control is needed on the drilling equipment. Suitable dust control strategies for the drill rigs include water spray systems, dust suppressant chemicals, enclosures, mechanical control devices, or a DEQ approved alternative method.
5. Establish procedures to minimize material drop heights and dust formation during truck loading operations and when dumping material from front-end loaders.
6. Establish procedures to minimize dust formation during conveying operations. The Plan must establish a method to determine the appropriate drop heights for transfer points.
7. Training/orientation of employees about the Fugitive Dust Control Plan procedures.
8. The initial Fugitive Dust Control Plan shall be submitted to DEQ for review and approval no later than 60 days after the issuance date of this permit. After approval of the initial plan, the permittee may update the plan at any time by submitting the proposed changes to DEQ for review and approval. The updated plan shall not become effective until approved by DEQ. If DEQ deems that the change in the plan qualifies as permit to construct modification as defined in IDAPA 58.01.01.006, the procedures specified in IDAPA 58.01.01.200-228 shall be followed to make the change.
9. Establish daily monitoring and recordkeeping of those criteria established to determine when control strategies must be employed for haul roads and drill rigs.
10. When in operation, the permittee shall comply with the provisions in the approved Fugitive Dust Control Plan at all times. Whenever an operating parameter is outside the operating range specified by the plan, the permittee shall take corrective action as expeditiously as practicable to bring the operating parameter back within the operating range.
11. A copy of the Fugitive Dust Control Plan shall remain onsite at all times.

**5.5 Fugitive Dust Monitoring – Periodic Inspections**

The permittee shall conduct monthly facility-wide inspection of potential sources of fugitive dust emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive dust emissions are effective. If fugitive dust emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each fugitive dust emission inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive dust emissions were present (if observed), any corrective action taken in response to the fugitive dust emissions, and the date the corrective action was taken. A compilation of the most recent two years of records shall be kept onsite and made available to DEQ representatives upon request.

**5.6 Fugitive Dust Monitoring - Recordkeeping**

The permittee shall monitor and maintain records of the frequency and the method(s) used (i.e., water, chemical dust suppressants, etc.) to reasonably control fugitive dust emissions. A compilation of the most recent two years of records shall be kept onsite and made available to DEQ representatives upon request.

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**6. PERMIT TO CONSTRUCT GENERAL PROVISIONS**

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the *Rules for the Control of Air Pollution in Idaho*. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the *Rules for the Control of Air Pollution in Idaho*, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
2. The permittee shall at all times (except as provided in the *Rules for the Control of Air Pollution in Idaho*) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
3. The permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:
  - To enter, at reasonable times, upon the premises where an emissions source is located, or in which any records are required to be kept under the terms and conditions of this permit.
  - At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack compliance testing in conformance with IDAPA 58.01.01.157 when deemed appropriate by the Director.
4. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
5. The permittee shall notify DEQ, in writing, of the required information for the following events within 5 working days after occurrence:
  - Initiation of Construction - Date
  - Completion/Cessation of Construction - Date
  - Actual Production Startup - Date
  - Initial Date of Achieving Maximum Production Rate - Production Rate and Date
6. The Director may require the permittee to develop a list of operation and maintenance procedures to be submitted to DEQ. Such list of procedures shall become a part of this permit by reference, and the permittee shall adhere to all of the operation and maintenance procedures contained therein.
7. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

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All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

8. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
9. In accordance with IDAPA 58.01.01.123, all documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.